

*Environmental Protection Agency  
Federal Technology Transfer Program*

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## *How Does US Legislation Define Federal Technology Transfer?*

- Existing knowledge, facilities, or capabilities developed under federal R&D funding are utilized to fulfill public and private needs
- Taking federal R&D and transferring it to private or public parties for further development or commercialization
- Also includes collaborative research between federal and non-federal scientists

## *Small Business Interest in the Federal Technology Transfer Program*

- Access to Government researchers and facilities
- License new technologies or co-develop new technologies with Government researchers
- Leverage research dollars
- Get new products to the field quickly
- Expand business
- Opportunities to do both SBIR grant work and collaborative research under FTTA

## Legislation

### Stevenson-Wydler Technology Innovation Act of 1980

- First to define and promote technology transfer
- Made it easier for federal laboratories to transfer technology to nonfederal parties

### Bayh-Dole Act of 1980

- Permits non-profit organizations and small businesses to retain title to inventions made with government funds (later extended to all contractors and grantees)
- Government owned and government operated laboratories permitted to grant patent licenses

### Federal Technology Transfer Act of 1986

- Provides private industry, state and local governments, and academic institutions access to federal laboratories to collaborate on R&D projects
- Allows government-employed inventors and government laboratories to share in royalties
- Gets federally-funded technology into the marketplace

# Support Provided by EPA's Technology Transfer Staff

- Assist potential partners in identifying opportunities for collaboration with EPA researchers
- Assist EPA researchers in identifying potential partners for collaboration, and identifying research suitable for cooperative efforts
- Prepare documents for CRADAs and licenses
- Assess marketability of technologies developed within EPA labs or CRADAs
- Track and report EPA FTTA activities
- Actively market CRADA and license opportunities
- Highlight successful EPA inventions and collaborations
- Provide training courses on the FTTA program (both internal and external training)
- Coordinate with the Office of General Counsel on intellectual property protection

## *EPA's FTTA Program*

- Managed by the Office of Research and Development for EPA
- Federal Staff:
  - Paul Zielinski, Chief - Research and Technology Applications
  - Kathleen Graham, Coordinator
  - Sarah Bauer, Marketing and Outreach
  - Rochelle Perry, Records and Documents
  - Patent Attorneys in EPA's Office of General Counsel
- Cooperative Agreement with the West Virginia High Technology Consortium Foundation

## *Mechanisms for Technology Transfer*

- Cooperative Research and Development Agreements: Technologies can be co-developed or jointly improved.
- Material Transfer Agreements: Loan or donation of research materials from one party to another.
- Outside User Agreements: Non-Federal parties can use EPA facilities for independent research (for which EPA can charge and retain fees).
- Licenses: Technologies developed in EPA labs can be transferred to the partner for further development and/or commercialization.

## *Cooperative Research and Development Agreements (CRADAs)*

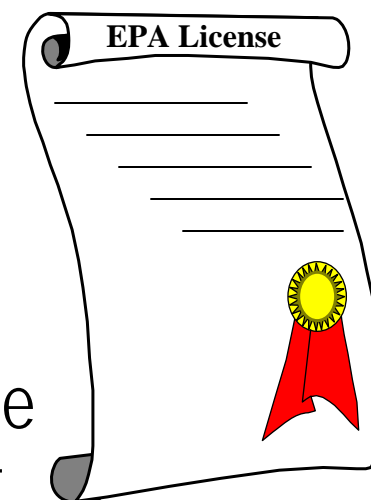
- EPA can enter into an agreement with an outside partner (industry, academia, non-profit) to perform research.
- Research performed under the agreement must be collaborative and consistent with the mission of the lab.
- EPA can provide personnel, services, facilities, equipment, or other resources, but not direct funds to the joint research.
- A non-Federal party can provide direct funds, personnel, services, facilities, equipment or other resources.
- The CRADA specifies how resources will be used and how the rights to any intellectual property developed will be assigned.

## *Protecting Intellectual Property and Patenting*

- Under a CRADA, new intellectual property can be (and often is) created
- In most cases, this IP will be owned by both parties to the Agreement
- One party will take the lead on patenting this IP
- Both parties have the right to use the patented technology. If the non-Federal partner wants exclusive rights to the technology, then they have the first right to an exclusive license
- If they don't get an exclusive license, EPA can license its patent rights to someone else

## *Licensing*

- Licensing is the transfer of property rights
- Licenses may be associated with a CRADA or may stand alone
- Government can issue exclusive or non-exclusive licenses
- License terms are negotiated with the FTTA staff (e.g., royalty rate, upfront payment, annual minimum payments)
- CRADA partners have first option to negotiate an exclusive license on the jointly-developed technology



# Example Partnerships & Research Areas

## Example Partners and Licensees

American Chemistry Council ✕ BP Amoco ✕ Chevron ✕ Dow Corning ✕ DuPont  
Eastman Chemical ✕ Exxon ✕ Fisher-Scientific ✕ Ford Motor  
Electric Power Research Institute ✕ General Electric ✕ General Motors  
Georgia Pacific ✕ Proctor and Gamble ✕ Hewlett-Packard ✕ International Paper  
Partnership for a New Generation of Vehicles ✕ Duke University  
University of Maryland ✕ Georgia Institute of Technology  
New Jersey Institute of Technology ✕ University of North Carolina

72% industry partners; 24% non-industry partners; 4% other

## Examples of Research Areas for CRADAs and Licenses

Black Mold    Arsenic Removal    Hybrid Vehicles    Water Security  
Children's Health    Clean Diesel Combustion    Phytoremediation  
Cryptosporidium    Aerosol Samplers    Soil Treatment

## *For More Information*

- EPA Tech Transfer Internet:  
[www.epa.gov/osp/ftta.htm](http://www.epa.gov/osp/ftta.htm)
- EPA's patents: [www.epatechmatch.com](http://www.epatechmatch.com)
- US Technology Transfer Legislation online
- EPA's standard CRADA and license agreements
- Fact sheets and brochures developed for EPA's FTTA program
- Recent articles highlighting specific technologies
- Examples of successful partnerships